

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**CONSERVATION CROP ROTATION**

(Acre)

**CODE 328**

**DEFINITION**

Growing crops in a recurring sequence on the same field.

**PURPOSES**

This practice may be applied as part of a conservation management system to support one or more of the following:

- Reduce sheet and rill erosion.
- Maintain or improve soil organic matter content.
- Manage the balance of plant nutrients.
- Manage plant pests (weeds, insects, and diseases).
- Provide food for domestic livestock.
- Provide food and cover for wildlife.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to all land where annual crops are grown except where crops are used to facilitate re-seeding of pasture or hayland.

**CRITERIA**

**General Criteria Applicable To All Purposes**

Crops shall be grown in a planned, recurring sequence.

Crops shall be adapted to the climatic region, the soil resource, and the goals of the producer.

A conservation crop rotation may include crops planted for cover or nutrient enhancement.

Crops shall be selected that produce sufficient quantities of biomass at the appropriate time to reduce erosion acceptable soil loss levels.

**Additional Criteria To Maintain Or Improve Soil Organic Matter Content**

Crops shall be selected that produce a minimum of 2000lbs/ac/yr of dry matter to maintain or improve soil organic matter content. (See Appendix 1)

Cover and green manure crops planted specifically for soil improvement may be grazed, as long as grazing is managed to retain minimum biomass.

**Additional Criteria To Manage the Balance of Plant Nutrients**

Crop selection and sequence shall be determined using standard Nutrient Management (590) to determine crop nutrient needs.

When crop rotations are designed to add nitrogen to the system, nitrogen-fixing crops shall be grown immediately prior to or interplanted with nitrogen-depleting crops.

To reduce excess nutrients, crops or cover crops having rooting depths and nutrient requirements that utilize the excess nutrients shall be grown.

**Additional Criteria To Manage Plant Pests (Weeds, Insects, Diseases)**

Crops shall be alternated to break the pest cycle and/or allow for the use of a variety of control methods.

Resistant varieties, listed in appropriate university publications or other approved

sources, shall be selected where there is a history or a pest problem.

**Additional Criteria To Provide Food For Domestic Livestock**

Crops shall be selected to balance the feed supply with livestock numbers.

**Additional Criteria To Provide Food And Cover For Wildlife**

Crop selection to provide either food or cover for the targeted wildlife species will be grown, managed, or left unharvested as per the needs of the targeted wildlife as determined by standard Wildlife Upland Habitat Management.

**CONSIDERATIONS**

When used in combination with STRIPCROPPING (585 or 586), the crop sequence should be consistent with the stripcropping design.

Where excess plant nutrients or soil contaminants are a concern, utilizing deep rooted crops or cover crops in the rotation can help recover or remove the nutrient or contaminant from the soil profile.

Where pesticides are used, consider application methods and the crop rotation to avoid negative impacts on the following crop due to residual herbicides.

Soil compaction can be reduced by adjusting crop rotations to include deep rooted crops that are able to extend to and penetrate the compacted soil layers.

Crop plantings may be developed to benefit particular communities, species or life stages of wildlife. Food plots or crops for wildlife could be provided as part of a habitat restoration project as an initial food and cover source for wildlife until food and cover producing vegetation becomes established.

**PLANS AND SPECIFICATIONS**

Specifications will include the following information provided to the client and documented in the conservation plan:

- 1) sequence of crops to be grown
- 2) length of time each crop will be grown

- 3) total length of rotation

Specifications shall be recorded using approved specification sheets, job sheets, or narrative statements in the conservation plan.

**OPERATION AND MAINTENANCE**

Rotations shall provide for acceptable substitute crops in case of crop failure or shift in planting intentions for weather related or economic reasons. Acceptable substitutes are crops having similar properties that meet the criteria for all the resource concerns identified for the field or treatment unit.

**APPENDIX 1****Conservation Crop Rotation****Code 328****Guidelines For Estimating Amounts Of Residue By Yield Of Crop**

<b>Corn</b>	<b>60</b>	<b>pounds of residue per bushel of grain</b>
<b>Wheat</b>	<b>90</b>	<b>pounds of residue per bushel of grain</b>
<b>Oats</b>	<b>60</b>	<b>pounds of residue per bushel of grain</b>
<b>Barley</b>	<b>70</b>	<b>pounds of residue per bushel of grain</b>
<b>Rye</b>	<b>90</b>	<b>pounds of residue per bushel of grain</b>
<b>Soybeans</b>	<b>90</b>	<b>pounds of residue per bushel of grain</b>
<b>Sorghum</b>	<b>60</b>	<b>pounds of residue per bushel of grain</b>